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(week March 11-18, 2007)

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Unedited technical report as provided by lead NRCan
scientist. It is included here as background program
documentation only.

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MALLIK WEEKLY SCIENCE REPORT # 5

<p>Week:</p> <p>Science Supervisors:</p>	<p><u>March 11-18 2007</u></p> <p><u>Scott Dallimore</u></p> <p><u>Yutaka Imasato</u></p>	<p>Weekly weather: <u>getting much more reasonable..</u> <u>lows in the 30's highs in the 20's</u> Sun rising about 9:00, setting about 21:00 Camp: ~120 soles</p>
<p>28 Scientists on site:</p>	<p><u>Drill site:</u> Nixon, Dallimore; Imasato, Cho, Ikegami, Suzuki, Sakiyama, Houshuyama (JOGMEC)</p> <p><u>Inuvik:</u> Taylor (Aurora); Dreullault, (JOGMEC)</p> <p>Calgary: Wright (NRCan) Yasuda, Kurihara, Fuji, Suzuki, Uchida, Kawamura, Sato, Funatsu (JOGMEC) Mwenifumbo (NRCan) , Numasawa, Takayama,</p> <p><u>Drill site Operations:</u> Mizuta (JOGMEC), Toda(Japex)</p>	



Photo of the week: Mallik 2L-38 yellow jacket casing run with 5 monitoring cables

Well site operations activities:

Mallik 2L-38:

A photo pictorial of a week of Mallik 2L operations.



The great March 12-14 Mallik- 2L casing run:

Two years of planning, several weeks of waiting on operations and finally....Five monitoring cables on spooler ready for deployment; monitoring cables running to sheaves mounted in derrick; yellow jacket coating on casing with shrink wrap sleeves across joints; heater for shrink wrap; cable clamp with cable stretched on casing. One hundred and twenty nine casing joints, one thousand three hundred and ninety five (.76) metres run in hole, and one tired international casing/monitoring crew a the end of it. Kudos all around... a well planned, well executed first for Mallik and indeed in the world!

And then.... Mallik 2L activities continued on to the cement job, which coincidentally (or not) ended on the Ides of March. Rather than a scientist struggling to find words, perhaps the cement job is best chronicled by a simple clip from the Daily Drilling Report for March 14. The Yellow highlights seem to me to indicate a) beware of visits from company presidents!, b) cementing is a pressure packed time!, and c) even at the drill rig there are times when you simply have to wait on orders!

Bottom line.. darn it we struggled with the cement job and it will be next weeks science report that tells us where we stand.

REMARKS		Daily Drilling Report - OPERATIONAL REMARKS (00:00 - 24:00) March 14, 2007
FROM	TO	
0.00	6.00	Cont to RI hole w/ csg f/ joint 48 (940.6m) to 75 (landing joint).
6.00	8.00	With shoe at 1295.76m Cond mud and circ with 1115 KCL polymer mud
8.00	8.15	Continue circulating hole. Pre tour safety meeting & hand over
8.15	12.00	Cont to circ csg at 1295.76m pump rate of 0.80 m3/min
12.00	13.15	Cont circ and simultaneously mix 7m3 mud push for cementing job in the rig tanks
13.15	13.30	Cont. circ and simultaneously do Pre job safety meeting prior to cement csg
13.30	15.30	Stop circulating. Arrange equipment , check water temp. 8oC, align water truck to get a load of rig tank water, chlorides 3000mg/l to adjust water temp to 20C.
15.30		Start pumping mud push (7M3, 1200 kg/m3) at 0,8m3/min
		Akita president at rig, held crew meeting while circulating well
	16.00	(driller, rig mng and WSS on rig floor)
0.00	16.45	Stop pumping, RD circulating lines from rig, RU cementing circ line, bottom plug drop.
16.45	17.00	RU monitoring cables equipment to computers for cement monitoring
17.00	17.30	Pressure test to 21MPa, hold 5min, start pumping cement job
17.30	20.00	Pump 37m3 Artic Litecrete 1300kg/m and 38m# Articset 1880kg/m
		all at pump rate of 0.8 m3/min, stop pumps, flush lines, drop
		second plug and align rig tanks for displacement with mud
20.00	21.30	Start displacing with mud, when reaching 11m3, pressured up to 34MPa, Broke off
		cement lines and tied into stand pipe, work casing and try to break circ
21.30	24.00	Wait on orders

Mallik 3L-38

Smooth sailing. Logging finally completed, completion finished and injection test completed. Well done Nabors Crew!

Camp Life:

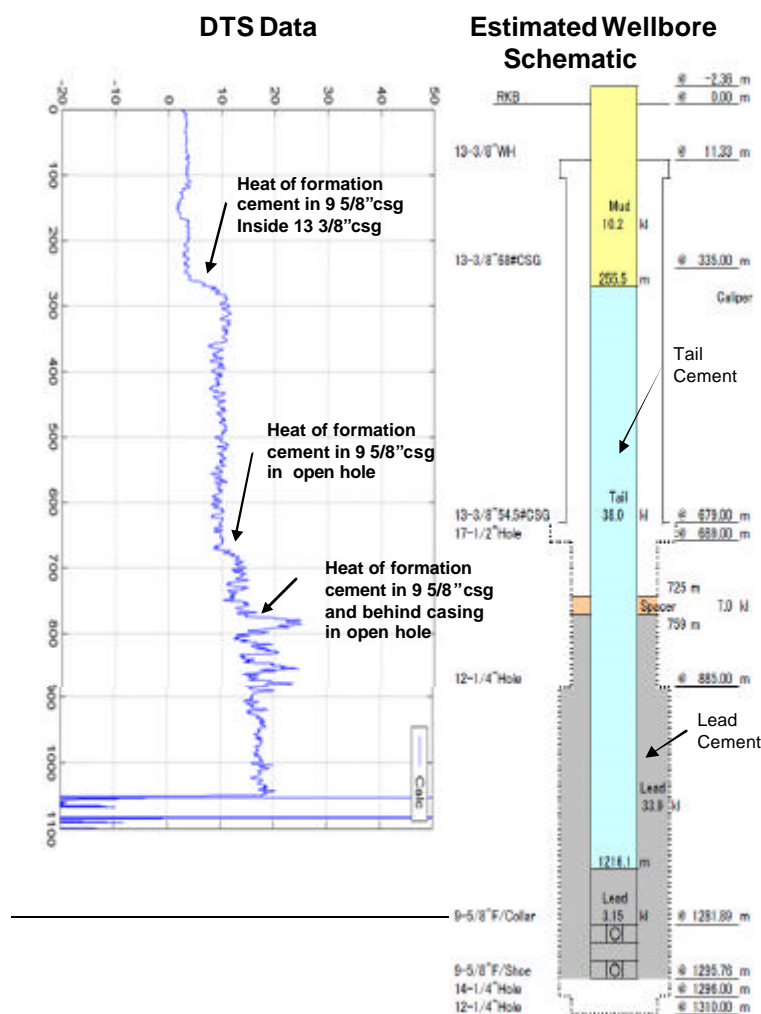
Very good week for the camp. What with the casing run and work on both rigs, everyone was busy and everyone was out simply doing business.

But folks, it has finally happened. Some of us have been here for four entire rotations of the weekly camp menu; Sat- Steak and Shrimp; Sun- Turkey; Mon-Roast Beef; Tues- Chinese; Wed-Pork and fish; Thur- Chicken; Fri-Fish and sea food. Still great food, but after four rotations you begin to realise that perhaps that third piece of prime rib can wait for next week.

Science report:

Monitoring team:

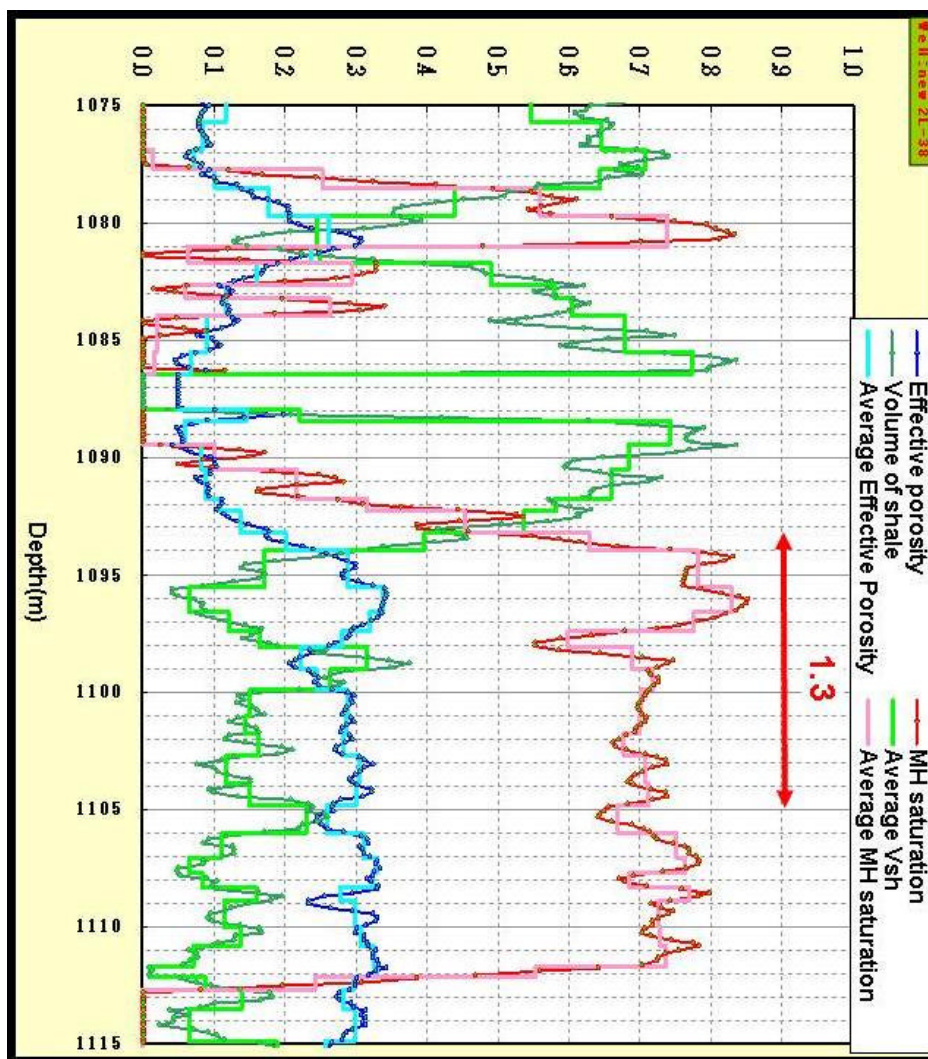
The monitoring crew of Ikegami, Chow, Suzuki, and Sakiyama-sans have been the R&D scientists on the spot this week at the rig site. Brian first with the deployment of the cables and everyone else involved in equipment and cable testing and strategising. These scientists showed great tenacity, spirit and adaptability. Tenacity to stick with the job and keep crews motivated and attentive during the deployment . Spirit in terms dealing with the sobering reality that some of our valued, dear and well loved cables (you get a bit personal with these things when you work with them for a long while) were injured on their 1.3Km run down the hole. Adaptability in terms of making the most with what we have. A good example is shown by the DTS data compiled below which was used to interpret our cement job.



Mallik 2L Distributed sensor data provided real time monitoring of the casing cement job. The plot on the left shows temperature changes caused by heat of formation during the curing of the cement (c/o Ikegami-san and monitoring team)

Geology and Geophysics / Production Teams:

The well log processing and interpretation team worked away through the week to develop advanced interpretations of geology and gas hydrate properties of the production and water injection intervals. A key consideration was the assessment of hazard related to production such as zonal isolation. The G&G group then passed these interpretations on to the JOE production modelling team who set parameters for their models and undertook 5 modelling runs each based on a different production interval. On Thursday/Friday the group connected for several conference calls spanning 10 time zones to select the preferred perforation zone for testing and injection.



G&G and modelling teams selected preferred production interval from 1093-1105m in Zone A and water injection horizons 1224-1230; 1238-1256 and 1270-1276 (plot c/o Kurihara-san and G&G team)